United States Patent Office 3,796,814
Patented Mar. 12, 1974

3,796,814

HEAT-SENSITIVE CONDIMENT-CONTAINING FATTY PARTICULATE

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No Drawing. Continuation-in-part of application Ser. No. 797,236, Feb. 6, 1969, now Patent No. 3,647,480. This application Nov. 15, 1971, Ser. No. 198,964
The portion of the term of the patent subsequent to Mar. 7, 1989, has been disclaimed
Int. Cl. A23l 1/26
U.S. Cl. 426—98 3 Claims

ABSTRACT OF THE DISCLOSURE

Condiment-containing fatty particulates with a substantially continuous fatty matrix phase at the surface. The composite particles are prepared by contacting a heat-sensitve condiment with preformed fatty matrix particles at a temperature not substantially above the Wiley melting point of the matrix particles for a time sufficient for the condiment to be absorbed. Agglomerates of the composite particles can be formed.

This application is a continuation-in-part of my earlier copending application having U.S. Pat. No. 3,647,480 and a filing date of Feb. 6, 1969. The contents of said copending application are hereby incorporated by reference.

Fatty particulates containing condiment are known and have been used in the past for making bakery products, as well as other types of edible foods. Generally, the practice in making such fatty particulates containing condiment has been to melt the fatty matrix to a liquid, disperse the condiment therein, whether it be a liquid or solid, cool the molten fat until it solidifies, and then chip the solidified fat and condiments forming particulates usually about ¼ inch at the widest dimension. These chips then could be incorporated into a dough or shortening for forming bakery products or sprinkled over hot bakery products; e.g., rolls, cookies, etc. Such edible products possessed localized areas containing an enhanced portion of spice or colorant.

One of the advantages of this type of product is that the fat can be selected on the basis of its melting point for providing controlled release during baking of the condiment, bacteriastat, colorant, etc. Another is that the condiment could be protected from moisture air where such caused degradation or oxidation.

Advantages of the product of this invention over those of the prior art are that it includes the ability to avoid heat in the manufacture of the fatty particulate containing condiment which is particularly important especially where heat-sensitive condiment and flavorants are used. Products prepared by techniques requiring heat obviously have different organoleptic properties from those not requiring heat when such products contain heat-sensitive spices, colorants, etc.

The improved product comprises a heat sensitive condiment and a fatty matrix, the fatty particulate containing condiment being prepared by contacting said condiment in a zone with preformed fatty matrix particles at a temperature and for a time sufficient for making discrete composite particles of said matrix particles and said condiment with a substantially continuous fatty matrix phase at the surface of said composite particle and without substantial uncontrolled agglomeration of either said matrix particles or the resulting composite particle. The temperature of said matrix particles and said composite particles being their bulk temperature and not substantially above the Wiley Melting Point of said matrix particle, the

holding time in said zone being an average holding time and being at least about one second.

The condiment for purposes of this invention, can be any heat-sensitive liquid or solid phase seasoning ingredient suitable for producing or enhancing a flavor and/or a colorant for edible products. The condiment includes solid condiment, flavoring oils, essences, extracts, and other zesty flavorings. By "heat sensitive," it is meant to refer to those condiments; e.g., flavorings or colorants used as a seasoning in making food products which are susceptible to organoleptic degradation at temperatures in excess of about 120° F. at atmospheric pressure. There are many examples of heat-sensitive condiments either in solid or liquid form, and they include the imitation fruit flavors; e.g., lemon, lime, strawberry, raspberry, apple, cherry, peach, pear, blueberry, and so forth. Also oleo resin of paprika, cinnamon, anis seed or oil, natural cranberry, imitation flavorants or colorants containing acetaldehydes, cinnamaldehyde, caprylic aldehyde, and lower alkanols. These composition, when exposed to temperatures of 120° F. tend to undergo degradation often because some of the more volatile components in the flavors evaporate during the manufacturing process. Some undergo a color change. Paprika, when exposed to high temperatures; e.g., above 120° F., for a period of time, has the tendency to discolor to a brownish color as opposed to its normal reddish color.

The heat-sensitive condiment or condiment mixture employed preferably, is enrobed by the fatty matrix so as to substantially encapsulate it and protect it from the environments contaminating ingredients. If the condiment is appended to the surface as might be with the product in my copending application, it may not be protected and therefore, may undergo degradation.

By a fatty matrix particle is meant an ostensibly solid (nonsticky to and not readily deformed by touch at room temperature of 75° F.) small particle of fatty material such as one of a triglyceride fat, fatty acid, fatty emulsifier or surface active agent, fatty alcohol, wax such as beeswax or paraffin, or a mixture of same, suitably of edible quality for culinary or cosmetic purposes and capable of being preformed into small matric particles which remain substantially discrete from each other and readily pourable at room temperature (75° F.) from a conventional 100 ml. beaker which has been loosely filled at such temperature with the matrix particles in uncompressed bulk condition.

The fatty matrix particle can be preformed into the shape of a bead, flake, a chip, a cut or multifaceted form, a granule, an irregular solid particle, or the like. It can be colored and/or flavored or otherwise compounded conventionally, substantially homogeneously, if desired or neccessary. Fundamentally, the composition of the matrix particle should be of a composition distinguishable from the condiment composition applied to it, enrobed by it, or sorbed into it.

Materials which can be included as a fraction (ordinarily a minor fraction) of the fatty matrix particle include emulsifying materials such as those shown hereinabove, fungistats, bacteriastats, silicone oil, tints, dyes, colorants, flavorants, odorants, and antioxidants. When incorporating such materials into the matrix particle, they are generally proportioned in useful ratios for their end purposes. Thus, for example, one can use in a typical formulation 0.1 to 30% (by weight of the matrix particle) of conventional emulsifiers and stabilizers; colorants are useful in about the same proportion to yield the desired color in the resulting particle or in the end product to which it is to be added.

For broad utility, the matrix particle advantageously is a fat. The fat can be any neutral edible triglyceride or mixture of triglycerides such as one having a Wiley